

Application No. 10/021,929
Amendment dated August 25, 2005
Reply to Office Action of May 25, 2005

REMARKS/ARGUMENTS

This is in response to the Official Action mailed May 25, 2005.

In the Action, the Examiner rejected the presently pending claims under 35 U.S.C. §102 and §103, with reliance upon U.S. Patent No. 5,492,580, to Frank, and with reliance upon U.S. Patent No. 4,840,832, to Weinle et al., in view of the Frank reference. However, applicants must respectfully maintain that their molded construct, formed in accordance with their novel process, is simply not taught or suggested by the cited references, even when combined, and accordingly, the Examiner's rejections are respectfully traversed.

Applicants wish to thank the Examiner for the courtesies extended to their representative, James C. Edwards, Esq., during the personal interview that took place on August 9, 2005. During this interview, the cited references were discussed, and applicants' representative pointed out what are believed to be the clear deficiencies in the teachings of these references in teaching or suggesting applicants' molded construct. While agreement was not reached, applicants' representative indicated that a response to the outstanding Action would be filed pointing out what are believed to be important deficiencies in the teachings of the cited prior art references.

As discussed in applicants' previous response, and as discussed in the specification, the present invention provides improved molded constructs comprising fibrous material by *controlling the thermal history* of the construct components. By formation in this manner, the physical properties of the resulting construct are desirably enhanced, including stiffness performance, measured in accordance with ASTM protocol, which is at least 15% greater than

a molded construct devoid of the contemplated incubation and cooling steps provided by practice of the present invention.

In the Action, the Examiner has newly relied upon the Frank reference, but it is respectfully maintained that this reference fails to teach or suggest the formation of a molded construct including an *incubation period* followed by a *cooling period*, with the fibrous construct thereafter subjected to an elevated temperature, and compressed to a thickness greater than or equal to a final molded construct thickness, and *thereafter cooled, and then thermoformed*.

Significantly, it is respectfully noted that the Frank reference *does not contemplate a cooling step* as specifically set forth in the presently pending claims. As discussed at column 5, lines 25 *et seq.* of Frank, this reference contemplates:

Immediately upon completion of the heating process by unit 18, the *heated* nonwoven structure with its melted thermoplastic resin is directed through a compression state wherein, as described above, the resin flows throughout the nonwoven structure encapsulating the first reinforcement fibers and displacing the air voids therein.

Claim 1 of Frank is consistent with this description in its specification, wherein claim 1 specifies that after "heating said nonwoven structure", a step of "compressing said *heated nonwoven structure*" is performed.

In summary, Frank contemplates that the process disclosed therein is initiated with a carded matt, which is subjected to heat, and compression, and thereafter cooled. Reference is made to column 5, lines 39-44, wherein Frank et al. states:

Upon compression caused by the rollers 22, 24, the nonwoven structure is *cooled* to form the composite material. As described above, the rollers 22, 24 may assist in the initial cooling by being maintained at an appropriate lower temperature.

In this context, the novel method by which the present molded construct can be formed will be appreciated. The present molded construct is formed by first subjecting the fibrous matt to an incubation period, thereby activating the binder component of the construct. The construct is thereafter cooled to a temperature below the activation temperature of the binder component.

The fibrous matt is then subjected to an elevated temperature, and compressed to a thickness greater than or equal to the final molded construct. Notably, the construct is *thereafter cooled*, and then subjected to thermoforming. As noted, this unique formation process desirably creates a thermal history whereby the resultant construct exhibits enhanced stiffness.

In the Action, the Examiner acknowledges that the Frank reference does not explicitly teach the claimed stiffness performance of the present invention, but states that it would be reasonable to presume that it would exhibit enhanced stiffness. However, it is believed that it will now be appreciated that such enhanced stiffness *is not inherent* in Frank, since this reference does not teach or suggest formation of molded construct in accordance with applicants' claimed invention.

In this regard, applicants respectfully refer to M.P.E.P. Section 2143.03, which specifically mandates that "all claim limitations must be taught or suggested by the prior art" (citations omitted), and in view of the clear deficiencies in the teachings of Frank in teaching or suggesting formation of a molded construct in accordance with applicants' presently pending claims, it is respectfully submitted that this rejection should be withdrawn.

In the Action, the Examiner has further relied upon the Weinle et al. patent in combination with the Frank patent. However, it is respectfully maintained that the Weinle et al. reference clearly fails to overcome the deficiencies in the teachings of the Frank patent.

Like Frank, it is respectfully submitted that Weinle et al. fails to teach or suggest formation of a molded construct, including a thermal history, as specifically set forth in the presently pending claims. As described at column 5, line 63 *et seq.*, Weinle et al. contemplates:

As illustrated in FIG. 5, the roll 40 is thereafter unrolled and cut to size, and optionally combined with a form layer 22 and a fabric surface layer 24. These materials are placed in a heated oven and heated at a temperature and for a time sufficient to *activate the potentially adhesive characteristics of the thermoplastic binder fibers*. The heated fibrous batt is then molded, as indicated at 52, and into the desired contoured configuration (emphasis supplied).

Not only does this reference fail to teach or suggest formation of a molded construct having a thermal history as specified in the pending claims, it is respectfully noted that this reference does not teach or suggest *compressing to a thickness greater than or equal to a thickness of a final construct*, followed by cooling, and thermoforming, as specifically claimed.

Thus, it is respectfully maintained that even when combined, the cited Frank and Weinle et al. patents do not teach or suggest applicants' claimed molded construct, and novel method of formation.

In view of the foregoing, formal allowance of claims 12, 15, and 19-22 is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

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The Commissioner is hereby authorized to charge any additional fees which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

By 
Stephen D. Geimer, Reg. No. 28,846

WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
500 West Madison Street, Suite 3800
Chicago, Illinois 60661-2511
312/876-1800

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service with sufficient postage at First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **August 24, 2005**.

